

farmer in France in doubt as to the name of a pear, or how to manage an intractable graft would hesitate to apply to the *Professeur de Culture* on the subject. It was curious to turn from the bustle of the Parisian streets into the country-town like repose of the Rue Cuvier, where Decaisne was almost always to be found at work in his small red-tiled study lined with books, and ever delighted with urbane and old-fashioned courtesy to do the honours of the establishment. In the work of his latter life there was little room for epoch-making discovery. But his splendid "Jardin Fruitier du Muséum" is a monument of patient labour on the cultivated forms of fruit-plants elaborated in the thorough spirit of the naturalist; and its value will, in a scientific point of view gain with time when the races figured and described in it are supplanted and lost. Students of the future will turn to Decaisne's laborious pages to compare the stages of variation which he has permanently recorded. In much other work of this class he had the collaboration of his friend Naudin, now director of the botanical station at Thuret's country seat at Antibes, which his heirs presented to the French Government.

In the other side of the work of the Jardin des Plantes Decaisne was no less industrious. With minute scrupulousness he was always occupied with the elaboration of careful descriptions of new and interesting genera and species of plants, and the pages of his great "*Traité générale de Botanique*" (published with Le Maout, but of which the great bulk is based on Decaisne's life-long studies), are everywhere enriched with the results of his dissections. Of the first edition of this admirable survey of the vegetable kingdom an English translation by the late Mrs. Hooker, edited by Sir Joseph Hooker, was published in this country. He published at frequent intervals through his long life much excellent systematic work of a more detailed kind.

Decaisne's turn of mind was essentially precise and matter-of-fact. Perhaps for this reason the doctrines of evolution which in England and in Germany have given a new impulse to biological study, had little interest for him. He would triumphantly show crops of a cruciferous plant raised in front of the physiological laboratory under wire-gauze for many successive years. "There is no departure," he would say, "so far from the specific type," and beyond this kind of evidence he did not seem to care to go. Not that his mind was wanting in flexibility to new ideas; he warmly supported the investigations made by Boret in confirmation of Schwendener's theory as to the nature of lichens—a subject on which most persons accustomed to the view that they are autonomous organisms, feel almost as strongly as if they were possessors of a vested interest menaced by Act of Parliament.

Decaisne was long associated with Brongniart in editing the botanical series of the *Annales des Sciences Naturelles*, and on his death became sole editor. In 1877 he was elected a Foreign Member of the Royal Society. He was unmarried, and to his devoted friend Boret fell the melancholy lot of watching his last moments and closing his eyes.

W. T. THISELTON DYER

ILLUSTRATIONS OF NEW OR RARE ANIMALS IN THE ZOOLOGICAL SOCIETY'S LIVING COLLECTION¹

VI.

14. THE GORAL (*Nemorhaedus goral*).—The "Goral," or "Gooral" of the Himalayan sportsmen is one of the groups of Goat-like or "Mountain" Antelopes, of which we have previously had an example in the Japanese Goat-Antelope (*Capricornis crassa*) figured in a previous article (NATURE, vol. xxxiii. p. 488), but is slightly divergent in form, and in some respects perhaps more

¹ Continued from p. 298.

nearly allied to our familiar Chamois of the Alps and Apennines. In its general habit, as Dr. Jerdon tells us, the Goral is very caprine in appearance; the back is somewhat arched, and the limbs are stout and moderately long, which renders it well adapted both for climbing and jumping. The Goral inhabits the whole range of Himalayas from Bhutan and Sikkim to Kashmir, at a range varying from a little above 3000 to nearly 8000 feet, though most common at about 5000 or 6000 feet. It is also found in the Sewalik Hills. According to Capt. Kinloch it is the least wild of all the Himalayan game-animals, and may often be seen in the immediate neighbourhood of the large hill-stations of Simla, Mussourie, and Nynee Tal. Its favourite haunts, we are told by the same distinguished sportsman, are the valleys of the Ganges and the Jumna and their tributaries; in the province of Chamba, north of Sikkim, they are said to be particularly numerous.

Gorals in their native wilds are not truly gregarious, but are either met with in small parties of three or four, or in pairs. Their special resorts are steep rocky hills thinly sprinkled with forest, where they lie concealed in the daytime, and come out to feed in the morning and evening. Where the ground is much broken, Capt. Kinloch informs us, they are not difficult to stalk, and when at all plentiful afford good sport, and are capital objects of pursuit to the young sportsmen who may not be up to the "grande chasse" of the Himalayan Ibex.

Our figure (Fig. 14) represents a young male of this species, which was received from Calcutta by the Zoological Society in March, 1881, and is the first Goral that has been exhibited in their gardens.

15. The Burgh Sheep (*Ovis burghel*).—The various species of wild sheep are widely distributed over the mountain-chains of the Palaearctic region, one only—the Big-horn of the Rocky Mountains—being found in America. In Europe the only Sheep now existing in a wild state is confined to the islands of Sardinia and Corsica, where the Moufflon (*Ovis musimon*) occurs under two slightly different forms. But in our new possession of Cyprus a second species (*Ovis cyprinus*) occurs, and a closely allied form (*O. gmelini*) is found in the mountains of Asia Minor. The various mountain-groups of Central Asia are tenanted each by its own species of wild sheep (*Ovis karelini*, *O. poli*, *O. argali*, &c.), in some of which the horns attain a prodigious development, and, in order to render them able to support such a burden, the animals themselves are necessarily of enormous size and strength. In Kamtschatka the representative of the sheep is the fine *O. nivicola* of Eschscholtz, discovered during Kotzebue's second expedition, which, as might have been naturally expected, comes nearest to the American "Bighorn."

On the confines of India four or five species of wild sheep come within the grasp of the collector and sportsman, though the genus has in fact nothing to do with the true Indian fauna. One of these (*Ovis cycloceros*) is an inhabitant of the Salt-range of the Punjab. It is replaced in Afghanistan by the recently described *O. blanfordi*, and in Cashmere by Vigne's wild sheep (*O. vignei*). On the main chain of the Himalayas two fine species of wild sheep attract the attention of our sporting fellow-countrymen whose destinies take them to India. One of these, commonly called the Ammon, though not strictly entitled to that appellation,² is confined to the undulating highlands of Tibet, the other, although also an inhabitant of lofty ranges, occurs in many parts of the southern slopes of the Himalayas. This is the Burghel, or Nahoor (*Ovis burghel*), of which we now give a figure (Fig. 15), from two young examples recently added to the Zoological Society's collection.

The Burghel, or blue wild sheep, Dr. Jerdon tells us,

¹ The *Ovis ammon* of Linnaeus is the same as *O. argali*: the proper name for the Himalayan "Ammon" seems to be *O. hodgsoni*, Blyth.

is found from Sikkim nearly to Simla, but does not extend further west than the valley of the Sutlej, its place being there taken by *Ovis vignei*. The Burrhel is found on this side of the great snowy range at the head of the

Tonse River, in the Buspa Valley, near the source of the Ganges, and still more abundantly eastward in Kumaon and Gurhwal, in the ranges between the Pindar and Bhagirutty rivers. It occurs only at great elevations,

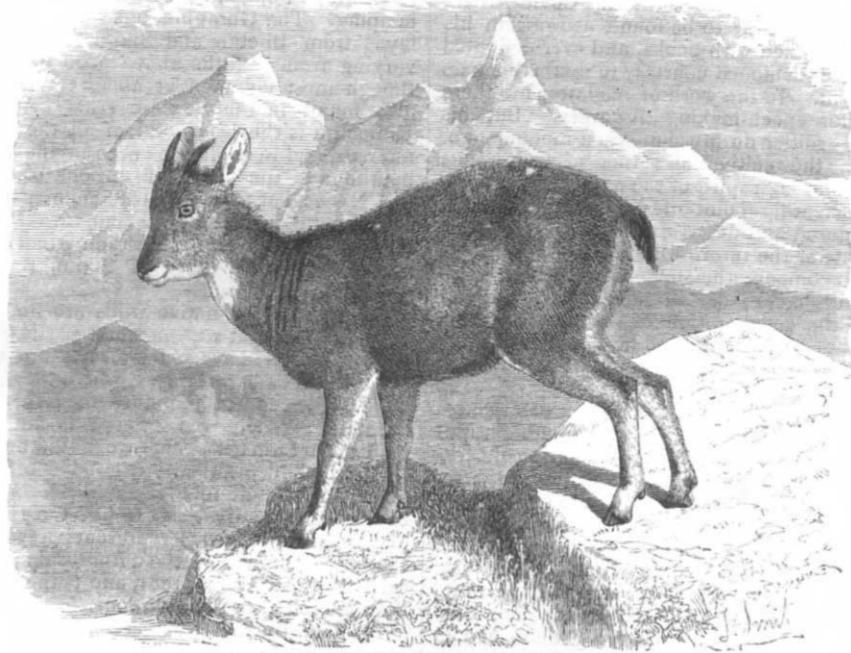


FIG. 14.—The Goral.

from the limits of forest to the extreme limits upwards of vegetation, in summer generally keeping to the tops of the hills, and even in winter rarely descending below the forests.

In a state of nature the Burrhel prefers grassy slopes to rocky ground, and associates in flocks of various sizes, from four or five, to fifty, or even a hundred.

Capt. Kinloch, in his excellent account of the "Game

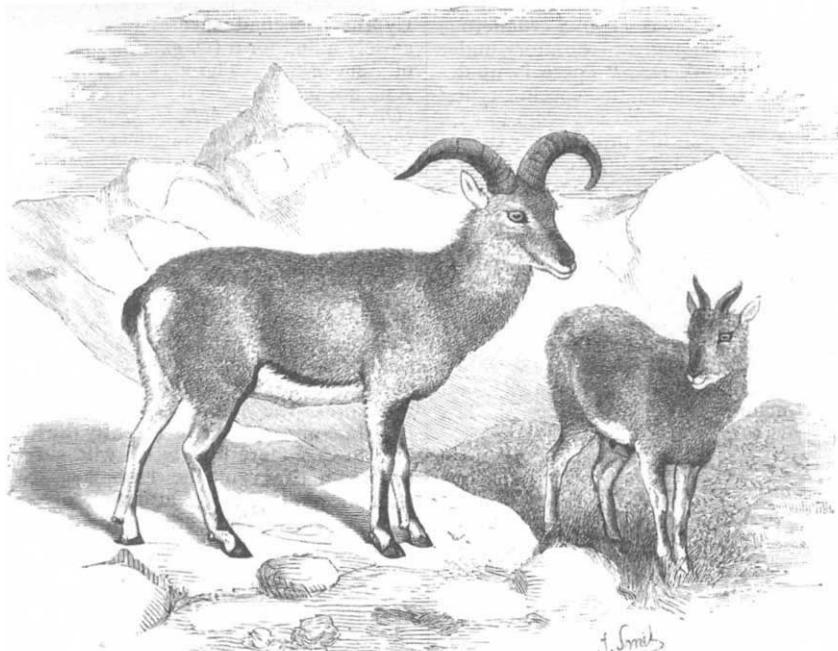


FIG. 15.—The Burrhel Sheep.

Animals of Tibet and the North-West, tells us that the best Burrhel-shooting is to be obtained in the Valley of Leptel, beyond the Millum Pass, and that of Spiti between the Manerung and Parungla Passes, and gives

us an exciting account of his adventures in pursuit of these splendid animals in the former locality.

16. The Esquerzo (*Ceratophrys ornata*).—The glass cases which held the various species of insects in the

Zoological Society's Insect-house during the past summer have been partially devoted during the winter months to the use of small reptiles and batrachians, for which they seem to be in every respect well adapted. Most of these animals, although shy and retiring in their habits, enjoy the warmth of the sun's rays and thrive excellently in their new habitations.

Amongst the batrachians thus exhibited are several species of gigantic size when compared with their puny representatives in this country, such as the Agua Toad (*Bufo agua*) of Brazil and the Ocellated Bladder-Frog (*Cystignathus ocellatus*) of Buenos Ayres. But by far the most remarkable of these forms in the series is the

Adorned Ceratophrys, or "Esquerzo" of the natives of the Argentine Republic—a large toad of brilliant colours and extraordinary form, of which a figure (Fig 16) is now given, taken from a water-colour sketch prepared by Mr. Ernest Griset.

The Esquerzo was discovered by Mr. Darwin during the celebrated voyage of H.M.S. *Beagle*, and first described by the late Prof. Bell in the "Zoology of the Voyage of the *Beagle*." This monster inhabits the pampas of Buenos Ayres, and is said to feed chiefly on its smaller brethren of the same class. Mr. Ernest William White, F.Z.S., to whom the Society is indebted for one of the two specimens now in the Gardens,



FIG. 16.—The Esquerzo, or Barking Toad.

specially mentions it in his lately-published "Cameos from the Silver-Land" as one of the characteristic forms of the grassy plains of the Argentine Republic. "In the damp grass," he says, may often be perceived the leering eyes and mottled black and green body of the huge Esquerzo (*Ceratophrys ornata*), whose gaping mouth crammed with the body of an unfortunate *sapo* (toad), and surmounted by threatening horns, inspires terror. This said Esquerzo bears an awfully spiteful character, and is credited with the deaths of many children. His appearance is certainly against him, but he is otherwise perfectly harmless."

The Esquerzo seems to thrive equally well on English

frogs as on the toads of Buenos Ayres, and does well in captivity. It is not, however, a very good object of exhibition, as, if left to its own devices, it hollows out a cavity to fit its body into the turf with which it is supplied, and leaves only the top of its head and projecting eyebrows barely visible. If harried out of its retreat for the examination of some curious visitor, it expands its body into almost a circular shape, and bites fiercely at any small object presented to it. At the same time it gives vent to its injured feelings in an angry whine, something like the snarl of a puppy, which has caused it to be known amongst the frequenters of the Gardens as the "Barking Toad."

NOTES

WE are glad to notice that a decided step has been taken towards the preservation of our ancient monuments. Sir John Lubbock has succeeded in getting the following resolution adopted in the House of Commons:—"That pending the introduction of a general measure dealing with the ancient monuments of the kingdom, and in order as far as possible to protect them from further injury, it is desirable that Her Majesty's Government should appoint one or more inspectors with authority to inspect and report upon such ancient monuments." Mr. Shaw-Lefevre, on the part of the Government, assented to the motion, and added that it was their intention to bring in a Bill dealing with the subject in which the hon. baronet took so much interest.

Thus Sir John Lubbock's determined perseverance in this important matter is likely at last to meet its reward.

IN deference to the strong feeling which evidently exists on the matter, the Zoological Society may be induced, if not too late, to reconsider the bargain they have made with Mr. Barnum for the disposal of their great African elephant, Jumbo, the universal pet of children. He has, we understand, been sold for 2000/-, but has shown so obstinate and touching a determination not to leave the Gardens which have been his home since a baby that it seems cruel to force him to do so. The general feeling is expressed in a letter which we print to-day, and during the last few days there have been numerous remonstrances on the subject in the press; one correspondent suggests that if